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(54) PRODUCTION OF HYDROGEN PEROXIDE

(57) Abstract:

PROBLEM TO BE SOLVED: To suppress the decomposition of formed hydrogen peroxide without adding acid or halide ions or additives such as formaldehyde and to produce high concn. hydrogen peroxide by allowing hydrogen to react with oxygen in an alcoholic medium in the presence of a metal of the platinum group obtd. by reducing a carboxylate of the metal.

SOLUTION: Hydrogen is allowed to react with oxygen in an alcoholic medium in the presence of a metal of the

platinum group such as rhodium or palladium obtd. by reducing a carboxylate of the metal to produce the objective hydrogen peroxide. The shape of the metal is preferably powder having 0.01-10,000 m²/g surface area. The metal may be carried on a suitable carrier and used. The amt. of the metal used is 1 mg to 10 g based on 100 ml reaction medium. The alcoholic medium is, e.g 1-8C alcohol or ethylene glycol. The partial pressure ratio between oxygen and hydrogen is 1:50 to 50:1 and the reaction is carried out at 5-60°C under atmospheric pressure of 150 kg/cm².G.

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